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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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WHITE, EXAMINER

ART UNIT 183  
PAPER NUMBER

DATE MAILED: 09/12/91

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

- ☒ This application has been examined ☒ Responsive to communication filed on 12/5/1990 (Information Disclosure Statement) and 1/22/1991 (Change of Address) ☐ This action is made final.

A shortened statutory period for response to this action is set to expire three month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948.                  |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.      | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-61 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 1-61 are rejected.
5. ☐ Claims \_\_\_\_\_ are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

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EXAMINER'S ACTION

Claims 1-61 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "increasing the mass transfer area of the reaction mixture" in claims 1, 22 and 25 is functional which renders the claims indefinite. The metes and bounds cannot be determined for the term "mixtures thereof" which renders the claims indefinite. The term "and/or" (all occurrences) is alternative language which renders the claims indefinite. The term "soup" in claim 53 lacks positive antecedent basis which renders the claim indefinite. The metes and bounds cannot be determined for the term "at least" in claim 54 in that no upper limit has been set forth. The product of claims 60 and 61 are substantial duplicates of claim 59 which render the claims indefinite.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered

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therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

Claims 1-61 are rejected under 35 U.S.C. § 103 as being unpatentable over Volpenhein (US Patent No. 4,517,360) in view of Osipow et al (US Patent No. 3,644,333).

Volpenhein disclose a transesterification process for synthesizing polyol fatty acid polyesters comprising the steps (1) heating a mixture of (a) a polyol selected from the group consisting of monosaccharides, disaccharides and sugar alcohols, (b) a fatty acid ester selected from the group consisting of methyl esters, 2-methoxy ethyl esters, benzyl esters and mixtures thereof, (c) an alkali metal fatty acid soap, and (d) a basic catalyst, to a temperature of from about 110° C to about 180° C at a pressure of from about 0.1 mm to about 760 mm of mercury to form a homogenous melt; and (2) subsequently adding to the reaction product of step (1) excess fatty acid ester selected from the group consisting of methyl esters, 2-methoxy ethyl esters, benzyl esters and mixtures thereof (see column 2, lines 40-60). Volpenhein further disclose that the heterogeneous mixture in carrying out step 1 generally comprises from about 10% to about 50%, preferably from about 15% to about 30%, by weight of the polyol; from about 40% to about 80%, preferably from about 55% to about 75%, by weight of the fatty acid esters; from about 1% to about 30%, preferably from about 5% to about 20%, by weight

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of the alkali metal fatty acid soap; and from about 0.05% to about 5%, preferably from about 0.1% to about 0.5%, by weight of the basic catalyst component (see column 5, lines 3-12). The process disclosed by Volpenhein appears to be closely analogous to the process set forth in the instant claims. Osipow et al, who also disclose a process for synthesizing sucrose esters, further disclose that the reaction between sucrose and the ester of a 12 to 22 carbon atom fatty acid occurs between the ester and solid sucrose having a very fine particle size, that is, in the magnitude of less than one micron in diameter, in the presence of an alkaline catalyst (see column 4, lines 5-9) which appears to be within the scope of the instant claimed process. Claims with regard to the reaction being carried out under conditions of backmixing and plug-flow conditions appear to be inherent in the Volpenhein reference. The products of instant claims 59 to 61 appears to be analogous to the polyol fatty acid polyesters of the Volpenhein and Osipow et al references since no distinction has been set forth in the products of the said claims. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process disclose by Volpenhein by using solid sucrose of very fine particle size as taught by Osipow et al, since the use of sucrose of very fine particle size as shown by Osipow et al is well known in the art.

Van Der Plank (US Patent No. 4,968,791) who discloses a

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process for the preparation of polyol fatty acid esters and Willemse (US Patent No. 4,973,682) who discloses a process for the synthesis of polyol fatty acid polyesters have been cited to further show the state of the art.


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All the claims (1-61) are rejected.

10 Any inquiry concerning this communication or earlier communications from the examiner should be directed to E. White whose telephone number is (703) 308-4004.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

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White  
August 31, 1991

  
JOHNNIE R. BROWN  
SUPERVISORY PATENT EXAMINER  
ART UNIT 183

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